

# Metabolic Engineering

Presented by

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Chair

Interagency Metabolic Engineering Working  
Group (MEWG)

# Metabolic Engineering

## Inter-Agency Working Group

### Department of Agriculture

Jeff Conrad, Liang-Shiou Lin, Gail McLean

### Department of Commerce

Vince Vilker

### Department of Defense

Harold Bright, Eric Eisenstadt

### Department of Energy

David Boron, Valerie Sarisky-Reed, Greg Dilworth, Dan Drell

### Environmental Protection Agency

Michael Broder, Mark Segal, Barbara Karn

### National Aeronautics and Space Administration

Steve Davison

### National Institutes of Health

Warren Jones, Jim Anderson

### National Science Foundation

Fred Heineken (Chair), Phil Harriman, Mike Domach

Dewey Ryu, Hector Flores, Sharman O Neill

# Metabolic Engineering

**Inter-Agency Announcement of  
Opportunities in Metabolic Engineering  
(NSF 98-49) (NSF 99-85) (NSF 01-19)**

## **Topic Areas of Inter-Agency Interest**

**Instrumentation, Tools, and Methods to  
facilitate the Study of Metabolic Pathways in  
Cells**

**Quantitative and Conceptual Models**

**Bioinformatics**

# Metabolic Engineering

**Inter-Agency Announcement of  
Opportunities in Metabolic Engineering  
(NSF 98-49)**

## **Response to Announcement**

**35 Pre-Proposals**

**19 Full-Proposals**

**5 Awards totaling \$3.6M**

# Metabolic Engineering

## **Additional Awards linked to (NSF 98-49)**

**NSF/EPA Partnership Program - Technology for a Sustainable Environment (TSE)**

**Mary Lidstrom**

**NIH Program Announcement (95-087) on Metabolic Engineering**

**Bernhard Palsson**

**NSF Knowledge and Distributed Intelligence (KDI) Program**

**Bernhard Palsson**

# Metabolic Engineering

**Inter-Agency Announcement of  
Opportunities in Metabolic Engineering  
(NSF 99-85)**

## **Response to Announcement**

**59 Pre-Proposals**

**29 Full-Proposals**

**6 Awards totaling \$3.1M**

# Metabolic Engineering

**Inter-Agency Announcement of  
Opportunities in Metabolic Engineering  
(NSF 01-19)**

**Response to Announcement**

**33 Full-Proposals**

# Metabolic Engineering

## Conference Objectives

Have Project Reviews for the First and Second Round of Awards

Discuss *in vitro* Metabolic Engineering

# Metabolic Engineering

## *in vitro* Metabolic Engineering

**Can Extracellular or Cell-Free Pathway Analysis give insight into what is happening in a Living Cell**

**Does Extracellular or Cell-Free Synthesis using Isolated Metabolic Pathways provide an adequate understanding of similar Synthesis in a Living Cell**

**Does Metabolic Engineering include the manipulation of Extracellular or Cell-Free Synthesis Pathways, or is this simply Biocatalysis**

**Is it possible to do Extracellular or Cell-Free Analysis of Signal-Transduction Pathways for the Regulation of Metabolic Pathways**